

1 (In open court.)

2 THE COURTROOM DEPUTY: United States versus Rashawn
3 Smalls, Docket No. 14-CR 414.

4 Counsel, please state your appearances starting
5 with the government.

6 MS. GEDDES: Elizabeth Geddes and Mathew Miller
7 for the government. Also seated at counsel table is Craig
8 O'Connor from the Medical Examiner's Office. Good morning,
9 your Honor.

10 THE COURT: Good morning.

11 MS. COLSON: Good morning, your Honor. Deborah
12 Colson and Kristen Santillo for Mr. Smalls. And we have our
13 expert here as well, Dr. Krane.

14 THE COURT: All right. Good morning.

15 Okay. We're here on the defendant's *Daubert*
16 motion to suppress the DNA identification or to preclude
17 expert testimony before the jury based on that. I have a
18 number of questions, mostly for the government. The first
19 one is I think pretty basic, and I'm just concerned I'm not
20 seeing something that's very obvious.

21 Both parties seem to think that under the
22 protocols that OCME follows, it's okay to disregard the
23 locus with the greatest number of alleles. That's in the
24 protocols. I'm not seeing that anywhere in the protocols.
25 The protocols that I'm seeing say that artifacts have to be

1 taken into account, which strikes me as kind of like the
2 Sentencing Guidelines; like I've got to consider them, but I
3 can then disregard them if I don't like them.

4 Is it that as a matter of practice OCME takes
5 things into account, but then it effectively just disregards
6 the one with the greatest number of alleles? Is that how it
7 works?

8 MS. GEDDES: No, Judge. This is in the protocols
9 and I'll show you where it is.

10 THE COURT: I thought I might be missing it. God
11 knows there's enough paperwork so it wouldn't be surprising.

12 MS. GEDDES: So I'm going to find the precise
13 place, but there's in the protocols, it actually states when
14 you can do FST and it specifies that you can -- you cannot
15 do it if there are seven or more alleles at two loci,
16 suggesting that you can do it when there's seven or more
17 alleles at one loci.

18 THE COURT: The inference being from that that you
19 will disregard the locus with the greatest number of
20 alleles. If there's one that stands out higher, that one
21 you can just eliminate.

22 MS. GEDDES: Not eliminate, but you -- because
23 that extra allele could be the result of drop-in or stutter,
24 then OCME's protocols provide that you can still consider
25 that a three-person sample. It's when there are two alleles

1 with seven or more loci when they don't believe that it's
2 simply a result of drop-in or stutter that you can then
3 account for that extra allele for them.

4 THE COURT: Okay. That brings me to my next
5 question, which is I take it it's common ground, OCME also
6 agrees, that you can't use this test if you know you have a
7 four-person or more mixture, right?

8 MS. GEDDES: It has not yet been validated for
9 that.

10 THE COURT: Okay. Everything I'm seeing here
11 suggests to me -- before I get to that, what that means in
12 the real world is that if your witness had said that she
13 took the gun from the defendant and then two guys she didn't
14 know came by and one of them took it from her and passed it
15 to the other guy and they left, you couldn't use FST to
16 determine whether there's DNA corroboration for that story,
17 right?

18 MS. GEDDES: That's not true.

19 THE COURT: Okay.

20 MS. GEDDES: Because not -- just because you touch
21 something does not mean that your DNA is going to attach to
22 that.

23 THE COURT: Right.

24 MS. GEDDES: So in the validation studies that
25 they use for FST, they had numerous four-person-touched

1 samples. So they took a pen and they passed it from one
2 person to another person to a third person to a fourth
3 person. And when they looked at the data, there were only
4 two people's -- and they knew who the four people were --
5 but only two people's DNA would show up on many of them. On
6 some of them three would and on some of them four would as
7 well.

8 But the reason is that not everyone transfers
9 their DNA onto something that they can touch. There's a
10 variety of reasons that affect that.

11 THE COURT: Okay. But I think that makes the
12 point I was trying to make.

13 If your witness were to testify to the scenario I
14 outlined and there were -- you were only able to find
15 samples of two people, it wouldn't corroborate your
16 witness's testimony.

17 MS. GEDDES: It doesn't --

18 THE COURT: It doesn't mean it didn't happen, but
19 it doesn't mean that it did.

20 MS. GEDDES: That's right, Judge.

21 THE COURT: Okay. All right.

22 When I look at what's happening here, it looks to
23 me like the most logical conclusion is that you got four
24 people. Here's why I'm saying this. You have seven alleles
25 present at one locus. Even if you assume that there's three

1 contributors, where does the seventh allele come from?

2 MS. GEDDES: So the seventh allele can be
3 explained by drop-in. And drop-in can be either
4 contamination or it can be a very minor contributor. And
5 when it's just a very minor contributor where you've got
6 like one allele from somebody who is attaching to that, OCME
7 doesn't deem that a four-person sample, it's a three-person
8 sample. It also can be some of the other stutter effects
9 that are found.

10 And the problem is that -- what I would focus on
11 is the remaining alleles that have far fewer than seven. In
12 fact, most of them have four or five. Which is not
13 consistent with a four-person allele -- I'm sorry, a
14 four-person sample. And OCME has developed these protocols
15 based on their experience and the study that was done by
16 Ms. Perez showing that typically in four-person samples
17 there are seven or more alleles in two loci.

18 THE COURT: I understand, and you're both relying
19 on the Perez study. And what you've just done is to give me
20 one possible explanation why there might not be four
21 contributors. But that doesn't mean there weren't. It
22 seems to me you have to be able to nail it pretty
23 conclusively down to three contributors in order to use the
24 test when you acknowledge that it's only valid for up to
25 three contributors.

1 MS. GEDDES: It's valid for what the OCME
2 determines as three contributors.

3 THE COURT: Right. But it's kind of
4 self-fulfilling, isn't it? Basically, you've assumed your
5 conclusion by saying that. You're saying, well, we
6 disregard that seventh allele, it's an outlier, and we're
7 allowed to do it by our protocol because we think that often
8 happens and it's accounted for by drop-in.

9 And, therefore, we conclude -- there's something
10 circular about it, isn't there?

11 MS. GEDDES: Yes, Judge. But the difference
12 between the studies cited by the defense and the OCME's
13 protocols are that they do account for drop-in. And drop-in
14 is a real phenomenon that is accounted for in FST. And that
15 is why they have developed the protocol such that it's not
16 just one allele. They look at the entire sample and, based
17 on their experience, they make a determination that it's
18 more likely a three-person sample than a four-person sample.

19 THE COURT: Okay. I understand what you're
20 saying. Let me ask you about this.

21 We've got 69 alleles in the two rungs. You're
22 telling me that three of those 69 are the result of stutter.

23 MS. GEDDES: May well be the result of stutter.

24 THE COURT: Then we have 66 alleles left. The
25 Perez study says that's four people.

1 MS. GEDDES: The Perez study was based on a sample
2 of individuals, and it doesn't conclusively say you
3 must -- if you have 66 alleles, then that requires a finding
4 of five person. It says that in the sample that they -- in
5 the samples that they looked at, that was more likely to be
6 a four-person sample. But they do identify -- and I want to
7 make sure I'm speaking correctly, but I believe they do
8 identify certain individuals that have 66 -- it was at least
9 65 -- I would like to look -- but which were three-person
10 samples and still had that many alleles.

11 The reality is that a three-person sample could
12 have far more than that because ultimately there could be 90
13 alleles assuming that each of the contributors was
14 heterozygous at each of the loci.

15 THE COURT: Okay.

16 MS. GEDDES: So there's no magic number that
17 determines where three-person alleles stop -- three-person
18 contributors stop and four-person contributors start.

19 THE COURT: I think that's kind of my point. Like
20 I said, I feel like to get this over the threshold to allow
21 the jury to have it, you need a scientific consensus that in
22 fact there are no more than three contributors. And instead
23 you've got what I think are, you can call it untested
24 theories, you can call it the exercise of experiential
25 judgment. And that to me does not just go to the weight of

1 the evidence for the jury to consider and allow
2 cross-examination as to whether there were three or four
3 because we're dealing with invalidity at four.

4 So it's something I think has to be crossed
5 definitively before you get to the jury with it.

6 MS. GEDDES: Right. But these protocols have been
7 validated. I mean, the protocols that identify how you
8 determine a three-person versus a four-person have been
9 validated. They have been presented to the DNA subcommittee
10 and approved as valid. They are part of the protocols that
11 are reviewed by the auditors that come in every one year,
12 two years, five years, and they have accepted these
13 protocols as accurate.

14 So this isn't a guess that this is best described
15 as a three-person. This is an assessment that has been
16 accepted and approved by outside organizations.

17 THE COURT: Well, that gets me to the broader
18 concern I have with the FST, which is when you're dealing
19 with a scientific testing protocol, it's a different kind of
20 peer review to sit down with a body of peers and say here's
21 what we've done and here's what we found and have all the
22 peers say, well, what you say is logical, it makes sense, we
23 find no fault in it and we, therefore, approve it.

24 That's one kind of peer review. The other kind of
25 peer review that think is most important, not necessarily

1 required under *Daubert* but most important in the area of
2 scientific testing, is replication; that is, here's our
3 source code, you do it, you test our assumptions, you see if
4 it comes out the same way.

5 And that hasn't been done.

6 MS. GEDDES: It hasn't been done yet in this case,
7 that's true.

8 THE COURT: That's a real concern, because it
9 could be done, right? You could open the source code.

10 MS. GEDDES: And in fact -- one moment.

11 (Brief pause.)

12 MS. GEDDES: I'm not sure this is going to assuage
13 you, but the reason why it was not an open-source code is
14 because the city was in the process of making sure the
15 appropriate copyrights were attached to the source code.
16 That has now been done and the source code has been shared
17 with Penn State University as well as Ms. --

18 THE COURT: So we're in the process of the kind of
19 peer review that could result in replication, but those
20 entities that have been given the source code have not yet
21 published their results.

22 MS. GEDDES: That's right. This all happened in
23 the relatively recent past.

24 That said, they are never going to use the precise
25 source code in their own labs because this has been

1 validated and developed based on the equipment at the OCME.
2 And so it can't be replicated precisely, but what has been
3 done and what we believe is sufficient under *Daubert* is they
4 have provided all of the studies that they use to validate
5 it to this subcommittee. And as your Honor recognized,
6 there's no requirement that this code be open and
7 replicated.

8 THE COURT: It's not required, but it's certainly
9 helpful. If I had, you know, three other medical labs that
10 had said we've used the same source code and now we agree
11 having used it in the same manner as OCME, we think it works
12 well, then you've had real tight peer review.

13 MS. GEDDES: You would have more peer review in
14 that case. However, the validations have provided ample
15 explanation for what is contained in the source code. And,
16 frankly, it has allowed the defense expert to identify their
17 concerns with it in a way that it didn't require the source
18 code to do that, but because they were very open about how
19 this worked, they were in a position to bring that open.

20 I don't think it would have made a difference,
21 frankly, if it was open code or not.

22 THE COURT: Well, we don't know. I mean, if
23 somebody used the source code and they said this doesn't
24 work, you know, we've tried it and we can't replicate the
25 results that OCME is using, then we have an issue.

1 MS. GEDDES: That's true, Judge. But this isn't
2 simply trust me, we did this.

3 THE COURT: No.

4 MS. GEDDES: I mean, it was a very, very extensive
5 value indication process that the OCME went through in order
6 to convince the DNA subcommittee that it was appropriate and
7 a valid software, which they then made those binders
8 available not only to the subcommittee but also to the
9 defense so that they could do their own analysis on that.

10 THE COURT: All right. Let me get back to the
11 application here. Another question I've got is I don't
12 think there's any dispute that the sample that was taken
13 from the grip area of the weapon was clearly degraded.

14 If that is degraded, then how is it conservative
15 to say, oh, this is a three-person mixture not a four-person
16 mixture? We know something else was touched here by
17 something and yet we're still sticking to the conclusion
18 that it was a three-person mixture.

19 MS. GEDDES: But it was -- it's degraded and that
20 is how you can explain why -- how certain of the loci have
21 no alleles that are shown, right, like D2.

22 THE COURT: That's one explanation, that it's
23 degraded. Another explanation is that there's a fourth
24 contributor or fifth or sixth.

25 MS. GEDDES: But even if there was a contributor,

1 it's such a minor contributor that they don't view it as a
2 four-person or five-person or six-person. The point is that
3 they have looked at the entire sample and determined based
4 on what's there. And, frankly, there are a lot of alleles
5 that are shown, right, like not all of them -- it's really,
6 frankly, just D2 that falls out.

7 THE COURT: Okay. Then the other question I've
8 got for you, it's more of a systemic question. This has
9 been a fascinating exercise for me. I've really enjoyed
10 doing it.

11 I have some difficulty seeing the jury do it. At
12 the very least, we've got what would be after jury selection
13 a half-day trial without this evidence. You add this
14 evidence, I think you're talking about a minimum three-day
15 trial, maybe four to five. And at some point it's not the
16 defendant that's on trial anymore, it's the science. And
17 that raises some real Rule 403 concerns for me.

18 MS. GEDDES: Right, Judge. And look, it may
19 ultimately be that were your Honor to allow us to introduce
20 this testimony, we may ultimately decide not to do that for
21 that reason.

22 THE COURT: That would be annoying, okay. After
23 everything I put in to try to understand this very complex
24 matter you were to say never mind.

25 MS. GEDDES: To you and me both.

1 However, we identified for your Honor early on the
2 reason why we were relying upon this is we didn't know
3 exactly how our case would go in in light of one of the
4 witnesses.

5 That said, we were trying to be very inclusive in
6 the amount of information that we provided to you. I do not
7 believe the jury would need to get into all of this. For
8 example, there's no dispute about how likelihood ratios are
9 calculated and the lengthy explanation that Dr. Mitchell
10 goes into on how this was created. We would not have to go
11 into that much detail to the defense -- or to a jury.

12 THE COURT: You think you wouldn't. I think you
13 would. The reason I think you would is while I think you
14 could present the direct testimony in certainly a less
15 detailed form than you gave it to me, the fact of the matter
16 is that the defendants are going to tear it apart, as they
17 did in their opposition papers, and then you are going to
18 feel obliged to defend it by putting in everything that you
19 told me originally.

20 So I think you will have in front of the jury one
21 way or another everything that I've seen here. The
22 defendant is going to require it.

23 MS. GEDDES: That may be true, but then I would
24 really highlight the standard of 403. This evidence is
25 quite probative and particularly in a case in which

1 depending how the testimony goes in, whether the defendant
2 really touched this gun is going to be critical to it.

3 So we believe that it's very probative and even if
4 it adds an extra day or two, that's not an undue amount of
5 delay. It's still a relatively short trial.

6 THE COURT: If it's a day or two, I would tend to
7 agree with you. I'm not at all sure it will be. I think
8 I've got affidavits from at least three experts per side,
9 maybe four from one. And again, to take a jury through
10 this, you've got to have charts and slides, not on your
11 direct, but I think you'll end up doing it on direct because
12 you'll see what's coming on cross.

13 And I really think it's potentially an extra three
14 to four days of trial which, again, is not the end of the
15 world, but then I have the additional concern, as much as I
16 have struggled to understand the science here, is it fair to
17 ask the jury to understand the science here? It may be
18 asking too much.

19 MS. GEDDES: Your Honor, I want to point you to a
20 case, if I can find it.

21 I think that juries, frankly, are quite capable,
22 and I also think that it may have been more time-consuming
23 for your Honor in part because you're doing it based on the
24 papers. I think there is something to be said, and I say
25 this having listened to it myself, there's something to be

1 said for seeing a visual of it presented to the jury at the
2 same time as listening to someone explain it to you. I
3 think that, frankly, it's much more digestible than reading
4 an affidavit, flipping back to an exhibit, going back to the
5 affidavit.

6 So I think actually while you are likely to
7 understand it much more than the average juror, I think they
8 will be also in a different position because they will be
9 listening -- or they will be presented this information in a
10 more digestible fashion than, frankly, I think you were.

11 THE COURT: Well, that of course is one of the
12 reasons why we have live testimony at trials and we don't
13 follow the European system of having things determined just
14 on papers.

15 MS. GEDDES: And there are cases, and I will find
16 them, but there are cases which have talked about that we
17 shouldn't assume that juries can't digest this type of
18 information. And yes, it's complicated, but we have a jury
19 system. We credit the jury system with being able to
20 understand this. And if you and I who are not scientists
21 can grasp this, I think that there's a fair likelihood that
22 a jury can grasp this as well.

23 THE COURT: You know, frankly, I've had civil
24 cases that have presented scientific issues where there have
25 been *Daubert* motions and I've ruled, you know, let the jury

1 determine it and somehow I've been more comfortable doing
2 that just because they were civil cases. And if the jury
3 didn't get it right, it was just money.

4 I don't know that there's any authority for the
5 proposition that *Daubert* needs to be more rigorously applied
6 as to the government's evidence in a criminal case. I doubt
7 it. But I do want to make sure that the jury really can
8 understand if it needs to rely on this information and
9 particularly because it's so important in a case like this,
10 you know, I feel compelled to take extra caution to make
11 sure we just don't leave the jury in the jury room saying,
12 well, I didn't understand any of that gobbledegook, let's
13 flip a coin and we take the DNA or not. I really am afraid
14 of that situation.

15 And you may be right that I'm just not giving the
16 jury enough credit in being able to sort out the basic
17 points. And you may also be right that hearing it live
18 makes it less complicated than reviewing the papers and all
19 the exhibits.

20 MS. GEDDES: And your Honor can also instruct the
21 jury that if they can't comprehend it, that they shouldn't
22 flip a coin. That's not the way to handle it.

23 THE COURT: I'm going to write that down because
24 you won't object to a jury instruction if that's the way I
25 end up --

1 MS. GEDDES: I will not object. I think, of
2 course, that they shouldn't do that. They have to be able
3 to digest and understand it if they are going to rely upon
4 it.

5 THE COURT: All right. Let me hear from the
6 defendant. You can comment on any of the questions I've
7 raised or anything else that you want to tell me.

8 I did want to ask you, is there any DNA mixture
9 analysis that you'd be satisfied with? It sounds like your
10 objections just go to the point that mixture analysis has
11 not reached the level that it can be placed before a jury.

12 MS. COLSON: It's an evolving field, yes, a
13 relatively new field. And I haven't studied all of the
14 other software programs out there. I have focused primarily
15 on the FST. So I can't say if there may be another software
16 program out there that's more reliable.

17 But it is my understanding, based on the research
18 I've done, that this is a new and evolving field.

19 THE COURT: Right. But what would satisfy you?
20 I'm asking you what would satisfy you so that I see a
21 grounds for differentiating what you point to as defects
22 here

23 MS. COLSON: Right. Well -- one moment.

24 (Brief pause.)

25 MS. COLSON: One of the things that Dr. Krane has

1 just said to me is what makes him most uncomfortable is that
2 the sample is degraded and drop-out has occurred. So in
3 that situation, it is hard.

4 What I want to discuss is I think the first
5 question you asked the government, which is, can you nail
6 it? Can you tell me that this is a three-person sample?
7 Because if it's a four-person sample, the FST should not be
8 used.

9 And I think the government has been pretty clear
10 both here in court today, but also in its paperwork and in
11 the affidavit submitted by Dr. O'Connor, that they cannot
12 nail it, they cannot say that this is a three person sample.
13 They don't even describe it that way. They describe it as
14 at least a three-person sample. They also say it's most
15 cautious to say that it's a three-person sample.

16 THE COURT: Well, when you say they haven't nailed
17 it, I think what they would say on the witness stand is that
18 to a reasonable degree of scientific certainty, they believe
19 it to be a three-person sample.

20 MS. COLSON: I don't think that's what they're
21 saying, no.

22 THE COURT: Okay.

23 MS. COLSON: I think that what they have said very
24 clearly in their affidavits is it is most cautious for us to
25 describe it as at least a three-person sample. And what Dr.

1 Krane has said is, well, how, because there is no commonly
2 accepted scientific method for determining the number of
3 contributors to a sample. And that, in fact, the two most
4 important criteria in his mind, which are the total number
5 of alleles and the greatest number of alleles at one locus,
6 tell him that this is at least a four-person sample.

7 But the government, because of its FST protocols,
8 is ignoring the two criteria that Dr. Krane thinks is
9 most important but that even the scientific community and he
10 has cited a paper has been commonly accepted as most
11 important.

12 THE COURT: Is that the Perez study?

13 MS. COLSON: No, that's not the Perez study.
14 That's a study that we cited. The Butler study.

15 THE COURT: Okay.

16 MS. COLSON: Your Honor, what's troubling about
17 this is that if the government has no scientific method for
18 determining the number of contributors, Dr. Krane has no
19 scientific method for determining the number of
20 contributors, how is the jury supposed to do it? If the
21 jury can't do it and they can't say whether it's three or
22 whether it's four, how are they supposed to know whether the
23 FST should even be applied?

24 So I agree with your Honor that unless the
25 government can nail it and say this is only three people,

1 this evidence shouldn't come in because the jury has no way
2 of determining whether it's three or four. They don't even
3 know how to do that.

4 So that's the first issue. But the issue of
5 prejudice is quite concerning because we have cited studies
6 in our reply brief that DNA evidence is viewed by most
7 juries in study after study as being qualitatively different
8 from other types of scientific evidence. That when juries
9 hear that there is DNA evidence, they most commonly accept
10 it without looking under the hood of the car.

11 THE COURT: Well, I didn't need the studies for
12 that. I've talked to enough jurors afterwards that, you
13 know, I think it's generally safe to say that DNA in the
14 evidentiary world is a loaded gun, if you'll pardon the
15 expression in this case. They do take it very seriously.
16 It's the CSI effect, you know. They look for the DNA.

17 And I understand your point.

18 MS. GEDDES: But your Honor, if I might respond to
19 just that narrow issue. That is where we have someone
20 coming in to court and saying there's a one in a billion
21 chance that this was anyone else. That is not going to be
22 the testimony in this case. It's going to be quite clear
23 that this is simply it is more likely than not, and the
24 precise standard is cited in our brief, that the evidence
25 can be explained if the prosecution scenario is correct than

1 if the defense scenario is correct. It's not going to be
2 that type of --

3 THE COURT: No. But it's still going to be, if I
4 recall, one in 4,550 something, right?

5 MS. GEDDES: No. It's approximately 4,000 times
6 more likely that the prosecution scenario is correct, which
7 is that the evidence can be supported by the defendant being
8 a contributor, than that the defense scenario is correct,
9 which is that the defendant was not a contributor.

10 THE COURT: And can the jury distinguish between
11 one in 4,500, or whatever it is, as opposed to one in a
12 billion?

13 MS. GEDDES: Yes.

14 THE COURT: The billion sounds bigger, but what
15 does it mean to be one in 4,190? What does that mean?

16 MS. GEDDES: It means that there is strong
17 evidence that the defendant was a contributor. But at the
18 same point, the defense will be able to introduce, frankly,
19 the validation study which shows that sometimes that's
20 wrong. Rarely, but sometimes.

21 And that is not what we will be pinning our case
22 on. It is just additional support for the government's
23 position that the defendant possessed that gun on that day.

24 THE COURT: But it's more than that. I mean, we
25 know, in fact, that it is wrong statistically one out of

1 4,190 times at least, right, in terms of probability?

2 MS. GEDDES: I don't think that's the way to view
3 it. Not that it's wrong that many times. It's that it is
4 more likely that the prosecution scenario is correct than
5 the defense scenario.

6 THE COURT: Okay. But remember, when single
7 mixture DNA was first validated for -- single mixture. When
8 single-source DNA was first validated for use in
9 proceedings, the reason it was accepted was because the
10 numbers were astronomical like that. It was one in a
11 billion. Maybe it started out lower, it was like one in a
12 hundred million, one in 500 million.

13 We're not talking about numbers anywhere near that
14 here, right?

15 MS. GEDDES: No. It's not that type of scenario.
16 But that's why I think that there's not the risk that there
17 is with that type of -- with single-source DNA, which is
18 fairly more accurate, but there's not that risk with the
19 type of testimony that we are proposing to introduce.

20 The other thing to keep in mind is that the CSI
21 effect works both ways, right? The defense often makes a
22 big deal when we can't put DNA on the gun.

23 THE COURT: Right. That's something we're going
24 to have to talk about if I ultimately determine, and I
25 haven't determined anything, but if I ultimately determine

1 to exclude this evidence, then we have to talk about what
2 the defense is allowed to say to the jury about the fact
3 that there is no DNA evidence, if anything. And whether
4 saying anything would then open the door to all this
5 evidence coming in.

6 MS. COLSON: That's understood, your Honor.
7 That's obviously understood.

8 THE COURT: I worry about that.

9 MS. COLSON: And we accept that.

10 THE COURT: You accept the fact that you couldn't
11 make anything out of the fact that there's no DNA evidence?

12 MS. COLSON: We accept the fact that if we did
13 make something out of it, that that would likely open the
14 door, yes.

15 THE COURT: Okay.

16 MS. COLSON: But what I want to say about this
17 number 4,190 is that it is a large number. And as a
18 layperson, it sounds like a large number to me.

19 The second problem I have with it is the mere
20 precision of the number; that it's not an estimated 4,000 or
21 an estimated 5,000, but 4,190 somehow implies scientific
22 accuracy.

23 THE COURT: It would be worse if it was 4190.23785
24 going on.

25 MS. COLSON: It would. But I think this is bad

1 enough.

2 And third, the government then proposes to bolster
3 this very precise number 4,190 with a qualitative
4 interpretation that this provides very strong support that
5 Mr. Small's DNA is included in the mixture.

6 THE COURT: By qualitative interpretation, you
7 mean an argument.

8 MS. COLSON: Yes, an argument. I mean, this is
9 based on their own protocols that they have set up. When
10 the number is this large, it provides in their minds very
11 strong support. So they not only want to tell the jury the
12 number, they want to say that this number implies very
13 strong support that his DNA is included.

14 THE COURT: Aren't you protected to a degree,
15 though, because you can always say to the jury, you know,
16 when you watch CSI on TV and you see DNA evidence admitted,
17 they are talking about one out a billion chances. This
18 is -- my math doesn't go enough to do it, but it's a tiny
19 fraction of what you usually see DNA being used for.

20 MS. COLSON: I don't know. I don't know. I don't
21 know if that -- what sort of impact that will have on the
22 jury. This number sounds large enough to me. It's 4,100
23 times more likely that his DNA is included than it's not.
24 That sounds like a large number to me.

25 But I keep going back to this initial issue which

1 is can they say that it's just three contributors? And they
2 can't. And they can't figure out how to come to that
3 determination, Dr. Krane can't figure it out, no scientist
4 can, so how do we leave it up to the jury?

5 And if the jury can't figure out whether it's
6 three or four, then they can't even go on to the next step
7 of determining whether the FST is reliable, whether, you
8 know, this information has a CSI effect or is prejudicial.

9 THE COURT: Okay. Well, I understand your point
10 on that.

11 Anything else you need to tell me?

12 MS. COLSON: Here's another point important, which
13 is that this likelihood ratio of 4,190, as the Court knows,
14 is based on the supposition that there were just three
15 contributors. So if there were actually four contributors,
16 then the number is meaningless.

17 THE COURT: I tend to agree that this issue of the
18 three versus the four really permeates most of the analysis.
19 And the question is whether OCME's protocol and its judgment
20 that this is a reliable enough way to do it is something
21 that the jury can test and determine on its own.

22 But I understand your point that the scientists
23 can't say it with any definitiveness.

24 MS. COLSON: They can't even attach a likelihood
25 or a probability. That's why they say at least three and

1 this is the most cautious determination. They can't give a
2 percentage chance or likelihood chance because they just
3 don't know.

4 THE COURT: Okay. Anything else, Ms. Geddes?

5 MS. GEDDES: Yes. Just briefly I'd like to
6 respond to that.

7 It's not that the government just doesn't know.
8 It's not the government at all; it's the OCME. The OCME has
9 developed these protocols. And I just want to point out, as
10 I believe your Honor understands, that the study cited by
11 Dr. Krane was one that was conceptual in nature. It
12 literally just took the alleles in combination and said what
13 would -- how many alleles are at the most. It couldn't
14 possibly have more than six because it wasn't in the lab.
15 It had no inclusion of drop-in or stutter in that instance.

16 So I just think that study needs to be put aside
17 because it's not this particular case. The more appropriate
18 study to look at is the Perez study which does provide
19 support for the protocols that the OCME developed. And the
20 OCME analysts are trained to make this determination based
21 on their experience with these guidelines in the protocols,
22 and they applied those very protocols in making a
23 determination that this was best characterized as a
24 three-person versus a four-person.

25 THE COURT: All right. Last word to the movant.

1 MS. COLSON: I think what's clear from
2 Dr. O'Connor's affidavit and all of the papers the
3 government has submitted is that their conclusion is that
4 it's at least three people, not that it is three people.
5 And that's based on their own protocols.

6 But our issue, and as we've stated this before, is
7 that the protocols are problematic, one, because they
8 discount the two criteria that most scientists would say are
9 the most important which is the total number of alleles and
10 the greatest number of alleles in one locus. And second,
11 because the criteria that are listed in the protocols are
12 not weighted in any way. They don't -- they count the
13 number of criteria present -- three out of eight, six out of
14 nine -- but they don't tell you which criteria are more
15 important than the others. And the two most important
16 criteria are the ones that they discount.

17 THE COURT: Okay.

18 It's going to take me a little bit to decide this
19 motion. Give me 30 days. Obviously, it's something I feel
20 obliged to write on, and I will have something for you
21 before we next meet in 30 days. And then we'll talk about
22 where we go from there.

23 Melonie, what do we have about 30 days out?

24 THE COURTROOM DEPUTY: July 28th at 11:30.

25 THE COURT: How does that grab everybody?

1 MS. COLSON: Did you say the 28th?

2 THE COURT: Yes.

3 MS. COLSON: Okay.

4 MS. GEDDES: What time?

5 THE COURTROOM DEPUTY: 11:30.

6 MS. GEDDES: Judge, would you like me to
7 provide -- I can't find it right here, the protocols are on
8 a CD -- but would you like me to provide the place in the
9 protocols where it explains this seven or more alleles at
10 two loci?

11 THE COURT: Sure. Just send me a letter.

12 MS. GEDDES: I will do that.

13 THE COURT: Okay. I'm going to exclude time until
14 the 28th based on the pending motion and the fact that it's
15 a complex motion, even if it's not a complex case.

16 Okay. Thank you all for the excellent work on
17 this. It's been quite interesting. I'll try to get you
18 something well in advance of the conference so you can
19 digest it and we'll see where we go from there.

20 (Brief pause.)

21 THE COURT: Let's go back on the record for just a
22 second.

23 Can we move that to the afternoon of the 28th?

24 MS. GEDDES: That should be fine.

25 THE COURT: 2:15.

30

1 MS. COLSON: Sure.

2 MS. GEDDES: Thank you.

3 (Time noted: 10:54 a.m.)

4 (Proceedings adjourned.)

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